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**Optical thin film having high laser resistance - comprises
high and low refractive index layers of neodymium and magnesium
fluoride(s) for high UV laser resistance**

Patent Assignee: NIPPON KOGAKU KK (NIKR)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
JP 63142302	A	19880614	JP 86289697	A	19861204		198829 B

Priority Applications (No Type Date): JP 86289697 A 19861204

Patent Details:

Patent	Kind	Lan	Pg	Filing Notes	Application	Patent
JP 63142302	A		3			

Abstract (Basic): JP 63142302 A

A multilayer optical thin film consists of a high refractive index thin film and a low refractive index thin film. The thin film accepts extreme ultraviolet ray laser beams having an optical strength of at least 1.3 J/cm².

The high refractive index thin film comprises; neodymium fluoride having an optical film thickness of $\lambda/4$. The neodymium fluoride has no absorption at the extreme ultraviolet ray region and shows a high refractive index of 1.66 - 1.70. The low refractive index thin film comprises; MgF₂ having an optical film thickness of $\lambda/4$.

USE/ADVANTAGE - The optical thin film is applied to an antireflection film, interference filter, or interference mirror. The optical thin film has no damage even if an extreme ultraviolet ray laser beams having an optical strength of at least 1.3 J/cm² are irradiated at the film.

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Title Terms: OPTICAL; THIN; FILM; HIGH; LASER; RESISTANCE; COMPRISE; HIGH;
LOW; REFRACT; INDEX; LAYER; NEODYMIUM; MAGNESIUM; FLUORIDE; HIGH;
ULTRAVIOLET; LASER; RESISTANCE

Derwent Class: L01; P81; V08

International Patent Class (Additional): G02B-001/10; G02B-005/28

File Segment: CPI; EPI; EngPI

Manual Codes (CPI/A-N): L01-A07B; L01-L05; L03-G

Manual Codes (EPI/S-X): V08-A09